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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/975,835

10/11/2001

Hiroshi Koshiba

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03/29/2004

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EXAMINER

TRIMMINGS, JOHN P

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 03/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,835

Applicant(s)

KOSHIBA, HIROSHI

Examiner

John P Trimmings

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-8 are presented for examination.

Priority

The examiner acknowledges the foreign priority date of 10/18/2000.

Drawings

1. Figures 4 and 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because FIG.5 5B is also named "3C" erroneously. Also, the content of FIG.5 5B recites "DELETE LOW FREQUENCY FILES", but the examiner believes it should read, "DELETE ALL FILES", or the like. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "counter device" in Claims 1 and 2 must be shown or the feature canceled from the claims. No new matter should be entered. A proposed drawing correction or corrected drawings are required in

reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because in line 10, the word "test" should be plural, and in line 13, the word "rearrange" should be plural. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: page 6 line 17 and page 7 line 9 both contain the phrase "in sufficient", but the examiner believes they should recite, "insufficient". Appropriate correction is required.

Claim Objections

6. Claim 2 is objected to because of the following informalities: "counting device" in line 1 of the claim should instead recite, "counter device". Also, line 2 recites, "test" but the examiner believes it should read, "tests". Appropriate correction is required.

7. Claim 3 is objected to because of the following informalities: line 1 of the claim recites "A semiconductor test according to claim 1", but the examiner believes it should read, "A semiconductor test apparatus according to claim 1". Also, line 1 recites, "rearrange", and the examiner believes it should read, "rearranges". Appropriate correction is required.

8. Claim 5 is objected to because of the following informalities: the final step of this claim is not indented. The examiner requests that indention occur before the word "storing" in line 3 of page 17. Appropriate correction is required.

9. Claim 6 is objected to because of the following informalities: line 2 of the claim recites, "test", but the examiner believes it should read, "tests". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 1 recites the limitation "said pattern files" in the 4th line of the claim, and "said files" in the 6th line of the claim, and "the memory" in the 7th line of the claim. There is insufficient antecedent basis for these limitations in the claim.

11. Claim 3 recites the limitation "the pattern files" in the 2nd line of the claim. There is insufficient antecedent basis for these limitations in the claim.

12. Claim 4 recites the limitation "the pattern files" in the 2nd line of the claim, and "the executive memory" in the 3rd and 4th lines of the claim, and "said pattern files" in the 3rd line of the claim. There is insufficient antecedent basis for these limitations in the claim.

13. Claim 5 recites the limitation "each pattern file" in the 3rd line of the claim, and "each file" in the 5th line of the claim, and "the memory" in the 6th line of the claim. There is insufficient antecedent basis for these limitations in the claim.

14. Claim 7 recites the limitation "the pattern files" in the 2nd line of the claim. There is insufficient antecedent basis for these limitations in the claim.

15. Claim 8 recites the limitation "the pattern" in the 2nd line of the claim, and "the executive memory" in the 3rd and 4th lines of the claim, and "said pattern files" in the 3rd line of the claim. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by the applicant's admission of prior art in FIG. 4 of the application.

As per Claim 1:

The prior art teaches a semiconductor test apparatus that tests the operation of a semiconductor based on a plurality of pattern data (FIG.4 41), comprising: a counter device that counts the number of times pattern data is used for each of said pattern files (FIG.4 40 control unit performs this function); and a control unit (FIG.4 40) that produces a pattern file use frequency table showing the relationship

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between each of said files and said number of times the files are used, and stores this pattern file use frequency table in the memory (FIG.4 EXECUTIVE MEMORY). All of the functions specified in this claim are executable by the admitted prior art reference of FIG.4, utilizing the components shown – the CONTROL UNIT and the EXECUTIVE MEMORY. There is no other apparatus required to meet the requirements of this claim, and so the claim is rejected.

As per Claim 3:

The prior art teaches a semiconductor test apparatus according to claim 1 wherein said counting device counts the number of times said pattern data is used in a set of test for a predetermined number of semiconductors (FIG.4 CONTROL UNIT 40). There is no other apparatus required to meet the requirements of this claim, and so the claim is rejected.

As per Claim 3:

The prior art teaches a semiconductor test according to claim 1, wherein said control unit rearranges the pattern files in descending order of frequency of use based on said pattern file use frequency table after producing said pattern file use frequency table (FIG.4 EXECUTIVE MEMORY). There is no other apparatus required to meet the requirements of this claim, and so the claim is rejected.

As per Claim 4:

The prior art teaches a semiconductor test apparatus according to claim 1, wherein said control unit deletes the pattern files in ascending order of frequency of use in the case that the capacity of the executive memory is insufficient when transferring

said pattern files to the executive memories (FIG.4 EXECUTIVE MEMORY). There is no other apparatus required to meet the requirements of this claim, and so the claim is rejected.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gary J. Lesmeister, U.S. Patent No. 5696772, in view of Enoki et al., U.S. Patent No. 5873085.

As per Claim 5:

Lesmeister teaches a method for testing a semiconductor integrated circuit (column 33 line 20) comprising; applying pattern data (column 34 line 14) to the device. However, Lesmeister fails to teach counting the number of times the data was used,

and preparing and storing a usage table based on the frequency. (The examiner notes that in view of the indefiniteness of this claim (see 35 USC 112(2) rejections), there will be no reference to a memory.) In an analogous art, in a method of data file management, Enoki et al. performs a count of the number of times a file is accessed (column 6 lines 8-12), and stores the accessed file count in a file access table (column 6 lines 4-7). And, Enoki et al., in column 3 lines 1-4, boasts improvement of processing capabilities by applying this art. One with ordinary skill in the art at the time of the invention, motivated by Enoki et al. as suggested, would find it to be obvious to combine the references, and so the claim is rejected.

As per Claim 6:

The method of Claim 5 is limited to counting access during a number of semiconductors tested. In the analogous art, Enoki et al. also counts the number of accesses during a unit of time (column 3 lines 44-51), but does not specify that a device is processed during that time. However, Lesmeister, in the Abstract teaches that test cycles (patterns) are based on time, and so relates time to testing of device circuits, and so one with ordinary skill in the art at the time of the invention, motivated as previously stated, would find it obvious to combine the teachings, and so the claim is rejected.

20. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gary J. Lesmeister, U.S. Patent No. 5696772, in view of Enoki et al., U.S. Patent No. 5873085 as applied to Claim 5 above, and further in view of Toyonaga et al., U.S. Patent No. 5479657.

As per Claim 7:

This claim further limits the method of Claim 5 wherein storing the file is done in descending order of frequency. In an analogous art, the data management method of Toyonaga et al. teaches the same limitation (see Abstract). And, Toyonaga et al., in column 2 lines 38-50, explains the disadvantages of prior art systems which processed frequency related data, and the advantages (column 2 lines 54-65) of frequency usage sorting of the invention. And one with ordinary skill in the art at the time of the invention, motivated as suggested by Toyonaga et al., and in view of Claim 5, would combine the references, and so the claim is rejected.

As per Claim 8:

The claim limits the method of Claim 5 wherein storage encompasses deleting data (the claim is indefinite as to a pattern) based on least used first in the case that the storage medium (here, the claim is indefinite as to memory) is insufficient. In the invention of Enoki et al., column 29 lines 58-67 and column 30 lines 1-5 teaches deleting the files that are least used because of storage restrictions, wherein storage is conserved. Thus, based of the indefiniteness of this claim and the teachings of the references, and in view of the motivation previously stated, one with ordinary skill in the art at the time of the invention would combine the art, and so this claim is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P Trimmings whose telephone number is 703-305-0714. The examiner can normally be reached on weekdays, 7:30 AM to 4:00 PM.

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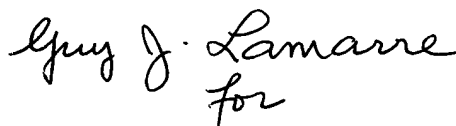
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P Trimmings
Examiner
Art Unit 2133

jpt


for

Albert DeCady
Primary Examiner